

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
25 January 2001 (25.01.2001)

PCT

(10) International Publication Number  
**WO 01/05227 A1**

(51) International Patent Classification<sup>7</sup>: **A01N 33/12 //**  
(A01N 33/12, 59:16, 59:06, 59:00, 33:08, 25:30)

(74) Agent: **SCHALKWIJK, Pieter, Cornelis; Akzo Nobel N.V., Intellectual Property Dept. (Dept. AIP), P.O. Box 9300, NL-6800 SB Arnhem (NL).**

(21) International Application Number: **PCT/EP00/06234**

(81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(22) International Filing Date: **3 July 2000 (03.07.2000)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:  
**99202342.4** **16 July 1999 (16.07.1999)** **EP**

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **AKZO NOBEL N.V. [NL/NL]; Velperweg 76, NL-6824 AB Arnhem (NL).**

**Published:**

— *With international search report.*

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **MACDONALD, Brian, P. [NL/NL]; Nachtwachtplein 3, NL-7242 CT Lochem (NL). WORKEL, Hennie, A. [NL/NL]; Park Broekheurne 36, NL-7544 NK Enschede (NL).**

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



**WO 01/05227 A1**

(54) Title: **REST-BREAKING COMPOSITION AND USE THEREOF**

(57) Abstract: The invention relates to a composition useful for the breaking of rest in deciduous fruit species such as apple species and grape species comprising an organic nitrogen-containing compound having a molecular weight of 60 to 300 with the exception of urea and dinitro-ortho-cresol, an inorganic nitrate rest-breaking agent, and a surfactant. Preferably, the organic nitrogen-containing compound is a choline salt such as choline chloride, the inorganic nitrate rest-breaking agent is selected from the group consisting of potassium nitrate, calcium nitrate, ammonium nitrate, calcium ammonium nitrate, urea ammonium nitrate, zinc ammonium nitrate, and mixtures thereof, and the surfactant is an alkoxylated amine such as Armoblen<sup>®</sup>, Armobreak<sup>®</sup>, and Berol<sup>®</sup> compounds or an